SEALIFT

DECEMBER 1973

A Year of Change and Challenge

The past year was one of transition for the Military Sealift Command, starting with a change from war to peace. MSC was very much involved in the withdrawal from Vietnam. That withdrawal posed a number of demanding challenges since much equipment needed to be returned to U.S. control, including large numbers of vehicles, helicopters and heavy, outsized items such as LCUs and YFUs. Once again it emphasized the *qualitative requirement* for strategic sealift assets suitable for delivery of *specialized equipment*, as well as the continuing *quantitative requirement* for *numbers of ships*.

Subsequently, there was a marked decrease in MSC controlled fleet assets as *worldwide* requirements declined. Older government-owned ships were taken out of service, many chartered commercial ships returned to their owners. Most of these ships were scrapped. This is a matter of real concern to those of us in sealift because the disappearance of break-bulk ships seriously reduces our contingency capabilities.

So does the withdrawal from operational service of all of our Far Eastern LSTs. This action emphasizes the extreme importance of budgetary constraints. We must do the very best we can with what we have, because times are really getting tough.

Not all was on the down side in 1973. Fleet support requirements continued to grow. Last spring Capt. Lawrence Nasset, master of USNS Taluga, our fleet support pioneer, received the Distinguished Civilian Service Award, the top civilian award in the Navy. Taluga Chief Engineer Donald McKee was given the Navy Superior Service Award. Every man in that ship and in support ashore deserves credit for her outstanding performance. An additional seven ships, two more oilers, two fleet tugs, and three cable layers also have been transferred to MSC for civilian manning.

There is no question that we in MSC can make a vital contribution to enhanced Navy readiness. It looks as if we will have a greater opportunity to do so.

October 13 was a real red letter day as USNS Sealift Pacific was launched at Todd Shipyard, San Pedro. Financed by private capital, she is the first of nine small tankers being constructed for long term MSC charter.

It has been a busy year too for the special projects fleet. Of note were Harkness' two visits to the Soviet Union, Vanguard's long deployment in Argentina in support of the Skylab astronauts, and Wheeling and Corpus Christi Bay deployments in the South Pacific.

Many of our ships displayed outstanding seamanship. Some 16 consolidations between MSC tankers and Navy oilers and amphibs were completed successfully. Arctic and Antarctic resupply progressed on schedule. USNS Huntsville was awarded a special Sea Rescue Award for the rescue of 12 men. Other ships including Hayes, Gammon, and Norwalk also were cited for rescues at sea.

However, the more things change the more they remain the same. A new contingency arose with the renewed Arab-Israeli or Yom Kippur War. Sealift was vital and MSC was called upon for increased support of the Navy fleets.

Certainly the future promises more contingencies, growing demands for sealift and enlarging opportunities to support the Navy fleets. I am sure that all of us in MSC, ashore and afloat, will continue to meet the challenges with the same dedication and professionalism that are hallmarks of the command.

I want to thank each of you for past dedication and professionalism, and to offer my sincere appreciation and very best wishes to you and your families for a successful and happy 1974. □

John D. Chase

Commander, Military Sealift Command

COVER: A newly formed volcano erupts. USNS Michelson was on the scene. Story on page 4.

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From the depths of the earth

by
Howard Rosenberg

When the explorer Balboa discovered the Pacific Ocean in 1513, he pioneered the way for hundreds of expeditions by Europeans into the vastness of seas they never dreamed had existed. However, the Pacific was nothing new to the Far Eastern peoples of island nations who depended on it for sustenance thousands of years before Balboa ever set foot on the American continent.

For hundreds of years, sailors charted the many islands that seemed to exist in the middle of the ocean without apparent reason. It was not until navigators had mapped most of the Pacific that there appeared to be a pattern for the islands dotting the great Pacific's broad expanse.

There are definite lines that island chains follow—dictated by the floor of the sea itself. Islands are formed by volcanic eruptions and like icebergs, are simply the peaks of great masses. A chain of islands is actually a series of mountain range peaks of greater height than land dwellers can ever imagine.

A new island recently was formed by a volcanic eruption in the Iwo Jima chain. USNS Michelson was operating in the area and took a short side trip to "eyeball the newcomer," in the words of First Officer Lloyd R. Haugh.

According to Haugh, there were reports last May of rumblings and whirlpools in the area. Then large eruptions and spewing lava formed an island about 600 miles south of Tokyo. The crater rises about 150 feet above sea level at its highest point and the new island is as yet unnamed. It is also still too hot to approach for detailed scientific investigation.

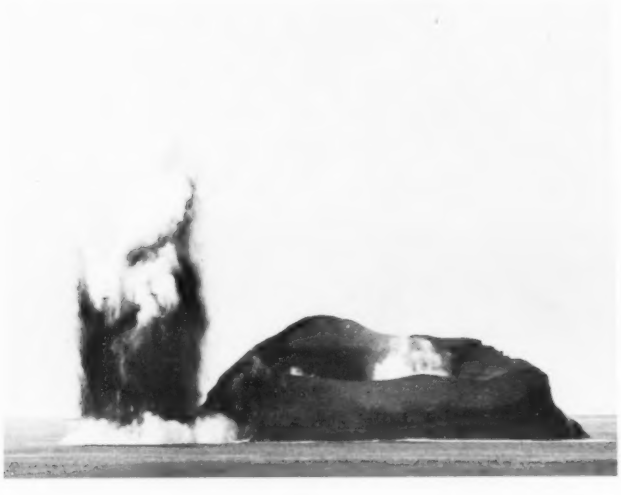
Iwo Jima is a Japanese name meaning surfer island and illustrates the idea of a land mass rising from the boiling surf. The Japanese are quite familiar with volcanic islands. Their entire country was formed by volcanoes, many of which are still active.

First Officer Haugh reported that "The smell of sulfur was detected as far as 100 miles to windward, and underwater activity had turned large areas of the surrounding water a reddish brown." Very little is known about submarine volcanic activity since the great mass of water absorbs most of the shock of earthquakes and eruptions.

Volcanoes have been the subject of literature, mythology and religion for thousands of years. There is evidence that the Greeks studied volcanoes as early as 500 B.C. and carvings in the cave habitats of primitive peoples show mountains erupting. Verse 32 of Psalm 104 of the Bible reads:

He looketh on the earth and it trembleth;
He toucheth the mountains and they smoke.

Volcanoes long have been thought to be a source of evil beings. Early Christians even thought volcanoes were entrances to hell. Many primitive tribes engaged



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While USNS Michelson's crew viewed the emerging island last October, another eruption occured.

Photographer's Mate Third Class Dave Fraker, a member of Oceanographic Unit Three aboard ship, took these photos of the eruption.

In the first photo, the cone is relatively inactive as water vapor rises from the main crater. An unexpected explosion at the water's edge can be seen in photo two. In the third photo the rock that shot into the air during the explosion has fallen back into the water causing steam and smoke to rise in a mushroom-shaped cloud above the crater.

"The night-time version was spectacular with red hot rocks flying skwyard," reported First Officer Lloyd R. Haugh. "It was quite a sight."

in human sacrifice to the gods inhabiting volcanic craters. Even today there are those who believe that demons lurk in the fiery depths that reach to the very bowels of a restless earth. It is not difficult to understand why.

Major eruptions are, to be a bit facetious, moving experiences. First, there is rumbling as the earth itself seems to moan in pain. The ground begins to shake fiercely as earthquakes tear fissures in the earth, and then the crater belches fire and smoke from its peak. Hot lava and rock spew from the cone and rain upon the valleys below. The whole side of a mountain may be covered by a sea of lava which engulfs and burns everything in its path. And there is the overwhelming sense of being totally helpless, at the mercy of the raw power of nature.

It is no wonder that primitive cultures thought the sacrifice of a vestal virgin might be a small price to pay to placate an evil mountain. But volcanic eruptions cannot be controlled.

Volcanic activity is caused by the escape of gases through the earth's crust, which is about 70 kilometers deep.

There are basically two types of volcanoes, according to Dr. Hiromu Okada, a seismologist and geophysicist with the Carnegie Institute of Terrestrial Magnetism in Washington, D.C. "One type," Dr. Okada said, "is like the continent of Iceland. It has been constantly rising at a uniform rate for at least the past 5 million years. This is known as ridge rift, or a spreading apart of the earth."

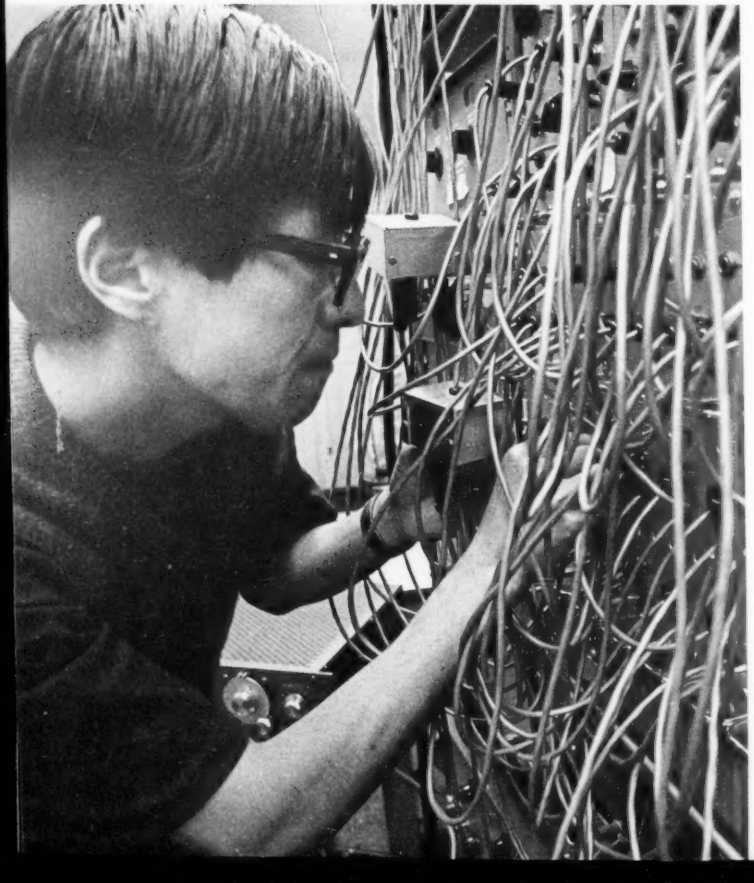
"The other type of volcano," Dr. Okada continued, "is the 'island arc' volcano of which the Iwo Jima chain is an example."

"Volcanic eruptions are very common in that area, and have been going on for thousands of years. As a child on the island of Honshu, Japan, I constantly watched the Asama volcano erupting every day, just a few miles away. For the last 20 years, it hasn't been very active. A few months ago, it started again," Dr. Okada said.

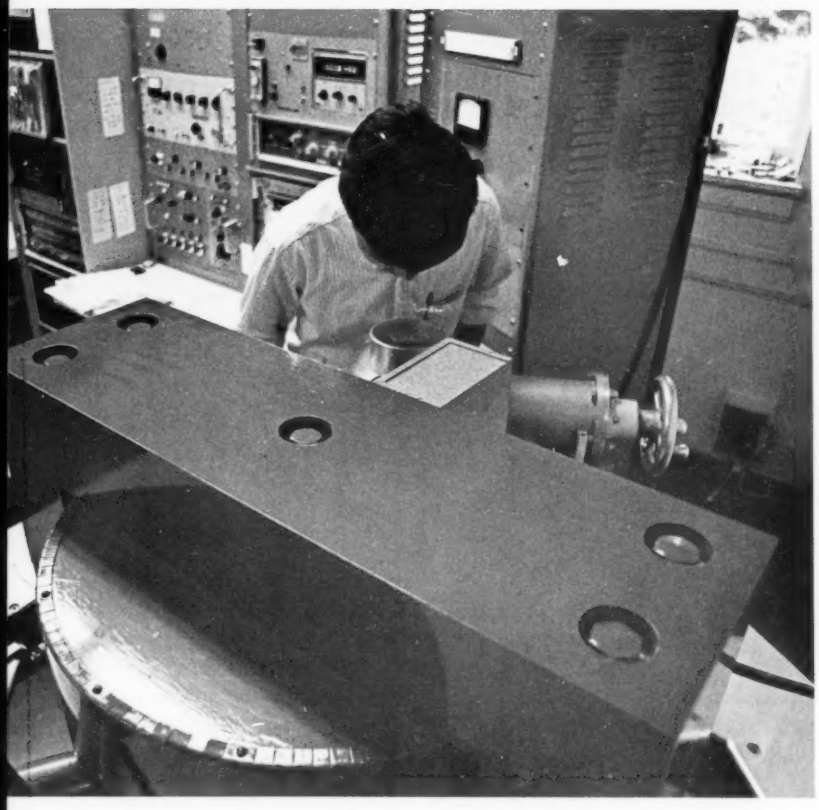
Asked if the volcanic eruptions frightened him as a child, Dr. Okada let a smile creep across his face and replied, "What could you do? Whether you were frightened or not, it wouldn't stop the eruption!"

Volcanic activity is common in that area because of its geographic characteristics. "If there is a deep sea trench and a volcano, between the two there is shallow earthquake activity," Dr. Okada explained. He added that "earthquakes and volcanoes are closely related." The Bonin Trench along the Iwo Jima chain is, at its deepest point, 9,656 meters deep.

There are several theories as to why volcanoes erupt. A currently popular one is the plate tectonic theory. Simply stated, this theory says that a huge "plate" of earth is slowly sinking into the mantle of the globe and the meeting of the cold plate with the melting activity below the crust causes the hot material to escape. It pushes its way up, ultimately becoming a volcano as it



TANGLED WEB: Dr. Hiromu Okada adjusts instruments on a special tape recorder to track seismic eruptions. The recorder has 16 tracks and can record for a full three months.



MEASURING: Dr. Nobu Shimizu examines a volcanic particle as it is heated. The instrument is a mass spectrometer.

finds a fissure in the crust. This sinking plate is believed to be occurring along various undersea mountain ranges, including the Iwo Jima chain.

According to Dr. Okada, the ocean floor research that USNS Bartlett has been doing (see Sealift May, 1973) entails "the whole picture of earthquakes, volcanoes and the resulting typography of deep sea trenches, high mountain ranges and the thermal conditions in a geographic area."

"If we had very sensitive seismometers in the area, we might possibly be able to predict an eruption such as the one in the Iwo Jima chain before it happened," Dr. Okada said. To do so, he continued, "We would have to detect a micro-volcanic shock a few days before."

The Carnegie Institute operated one of the first oceanographic research vessels around the turn of the century. "Before the advent of oceanographic research," Dr. Okada said, "we had little information concerning ridge rift volcanoes. But, as for the island arc, like the Iwo Jima chain, people have been living on them for hundreds of years."

Detecting and watching earthquakes and volcanoes is not all interested scientists do. Dr. Stanley Hart and Dr. Nobu Shimizu, geochemists with the Carnegie Institute, are examining the chemical makeup of volcanic matter in the hope of finding how deep in the earth it originated.

"We are very interested in how far the material rises when a volcano erupts," Dr. Hart said. The reason is that chains of volcanoes and the hills that build from their productivity eventually join together above the ocean's surface and become continents.

"Volcanic matter is very young in terms of geochemistry," Dr. Hart continued. "We want to know how continents of the future are to be made so that we understand more about the continents we now live on.

The measuring instrument used by Carnegie geochemists is one of the most accurate in the world. Known as a mass spectrometer, it weighs volcanic matter in order to determine its origin. The geochemists first decide which element they wish to measure. It is then separated from the rest of the material and a minute particle is placed on a filament.

The filament is heated and the element is ionized. As it passes through a strong electromagnet in a vacuum tube, various isotopes of the element are separated and measured electronically.

Through the study of earthquakes and the formation of volcanic islands, man is learning more about how earth came to look as it does, and how it may look thousands of years hence. □

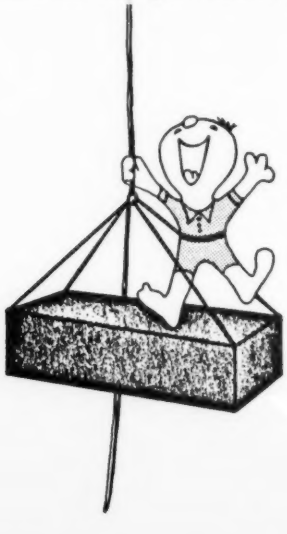
Up, up and away

by
Walt Adams

"Balloons? You've got to be kidding!" That is the usual reaction when we start telling military people that the skyhook is not only here, but is making money for some people on a regular basis while providing a cheap and reliable means of transferring heavy cargo from ship to shore where there are no port facilities. But, it is true.

Naval Facilities Engineering Command is involved in the early phases of what promises to be a good alternative to current, multi-handling ship-to-shore delivery of containerized cargo and vehicles. In March of 1973, the Army, Navy, Air Force and Marines took part in exercises sponsored by Advanced Research Projects Agency in Oregon using a balloon system, already employed by loggers, to simulate off-loading container sihps.

The system consisted of three major components. The balloon was in reality a 530,000 cubic foot, 103 foot in diameter, helium filled skyhook capable of lifting net loads of 12 tons. The yarder had two winches capable of independent operation for moving the balloon up or down as well as back and forth, weighing in at a hefty 140,000 pounds. A caterpillar tractor served as a flying dutchman, with the ability to pull the balloon laterally over the cell for insertion and extraction operations. Because of the mountainous terrain there was a limit of only 1,500 feet of horizontal distance between pickup point and the landing zone.



Engineers constructed a mock container cell and tilted it 2 degrees in pitch and 5 degrees in the roll. No more time was needed to place the spreader or containers in the cell than during previous at-sea exercises.

A complete test cycle consisted of placing the spreader in the cell, attaching to and removing the container, flying it 1,500 feet to the landing area, placing it within 1½ foot tolerances, and returning the spreader for another container. Skyhook trips averaged 5½ minutes for nine trials. Several variations were tried, such as moving the cell to the landing zone to simulate the yarder being on shore instead of near the container ship. Again it worked very well.

In a military system, in order to lift the required 44,800 pounds, a balloon with a capacity of 1.3 million cubic feet of helium, or two smaller balloons in tandem, would be required. The increase in size from 530,000 to 1,300,000 cubic feet would require an increase in diameter of only 50 per cent. The balloon would be used with a faster and more powerful yarder, and a winch for the flying dutchman. It is anticipated that with just one such system, cargo handlers could deliver a container across the beach to a point a mile away every six minutes. With slings, another minute could be saved.

There are three points which skeptics immediately raise, and they are well worth commenting upon. First is the vulnerability of balloons to enemy fire. The Air Force

MOCK UP: The simulated container cell was set in the ground. The flare at the top is roughly equivalent to those at the top of cells in commercial container ships.

has had some experience in this area, which helps answer that charge. In 1968, a balloon escaped from Cape Kennedy, and Air Force fighters scrambled to gun it down before it became a hazard to aircraft. They shot it, and rocketed it, but couldn't bring it down. Reason was the low 2 pounds per square inch differential pressure across the balloon. Similar experiences occurred in Vietnam. Total rupture failed to bring down several high altitude balloons. If they can be shot down, they aren't even out of action for long since holes are easily repaired by simple patches.

The second criticism concerns the ability of balloons to operate in bad weather. In Oregon it rained almost continuously, visibility was poor, and all communications with the yarder operator were by radio. Winds of 25 knots posed no problems. The only weather limitations for a balloon system are that it should be bedded down (one hour is needed) when winds hit 70 mph and during lightning storms. Under normal conditions the balloon need not be bedded down at night.

The third criticism leveled at the balloons is an alleged high cost. A total system, including the balloon, helium, yarder, flying dutchman equipment, lines, blocks and other miscellaneous paraphernalia would cost $1 million for a 45,000 pound capacity system. This compares favorably with the $1 million replacement cost of a single utility landing craft, which can solve only one part of ship-to-shore delivery problems.

Naval Facilities Engineering Command is pursuing additional experiments to solve technological problems and to assure that balloons are a reliable system in combat environments. The hope is that such a system will help solve the problem of unloading modern container ships when no ports and port facilities are available.

Problems now appear minimal. Construction of a larger system, according to the manufacturers, is well within the state-of-the-art.

The Army plans to conduct an offshore test this fiscal year to more closely simulate an actual operation. Results will be used to point up possible additional areas where a military system should differ from those already used in civilian operations, as in logging. Several commercial companies are contemplating using such a system for delivery in undeveloped areas. One company plans to be logging from a river barge in South America within a year.

Balloons? There are still many skeptics, but as more tests are conducted more converts are expected to support development of what appears to be a very promising delivery system. There are problems, but all are solvable in an economically acceptable manner. Perhaps we're a little light headed—but it sure looks good from where we're hanging. ◻

Walt Adams is with the Research, Development, Test and Evaluation Division of Naval Facilities Engineering Command, Chesapeake Division. He received his Bachelor of Arts degree from Worcester Polytechnic Institute, Worcester, Mass., in 1963.

Besides his involvement in researching the ship-to-shore aspects of container movement by balloon, he devotes his spare time to being an auto mechanic, a stockbroker, carpenter and horticulturist.

He has been with the Navy for nine years.

Rescue and death in the North Atlantic

by
Louis Granger

"The boat slammed against the ship with each wave so that I felt sure it would come apart. I shouted first for my wife. I never saw anything—no heads, no gear, nothing."

Thomas O. Lester, a 70-year-old sailing buff from Lake Odessa, Mich., gave that description of the moments he was struggling alone in a lifeboat that had just spilled out 10 other occupants as they were lowered from the burning Greek ship Eurygenes.

The SS Eurygenes, a 10,218-deadweight-ton refrigerated cargo vessel bound from New York to London, was on fire 840 miles east of New York. The captain, Photios Macris, ordered the ship abandoned about midnight, October 21.

The North Atlantic claimed six lives that dark night. But for the USNS Hayes, a civilian-manned Military Sealift Command research ship, the ocean was about to take four more.

Those four, holding on to drifting oars in rough, choppy seas, were in the water for more than three hours before being located by the white, twin-hulled oceanographic ship. Three persons were on one oar, including the young wife of the chief engineer, Mrs. Vasiliki Diamantopoulos.

Jacques C. Crampon, Hayes' master, said she supported both the chief steward and British radio operator after they had been washed from the lifeboat. She held on to the men's life jackets, encouraging them and calling for help. Rescuers said the woman was spotted while swimming toward the Hayes towing the two men on the oar. Tragically, the steward died about five minutes before they were pulled out of the ocean.

Philip Pengelly, the English radio officer, said later he "just about had it" and didn't think he could have lasted much longer.

John T. Birmingham, an engineer for the Naval Ship Research and Development Center and senior scientist aboard the Hayes, said the woman was the "catalyst that kept them alive. She had much more energy than the rest. She must be a very strong woman."

But five persons drowned that night and another is still missing, and presumed dead. Bodies pulled from the dark Atlantic waters were Lester's wife Ellen; Mrs. Mary Gordon, a passenger; Eleftherios Kolidakis, second officer

SEARCHING: Two members of the Hayes' crew search waters around the burning freighter for the last survivor.

who was in charge of the swamped lifeboat; Ioannis Stefanidis, third engineer, and Penaghis Tielentis, the steward. Missing is Dr. Francis Gordon.

The Gordons, of Ashton, Md., were on their way to London where Dr. Gordon was to study at the University of London's Institute of Opthalmology under a two-year Federal grant. He was a micro-biologist on leave from the National Institutes of Health, Bethesda, Md.

The North Atlantic sea lanes are perhaps the most traveled in the world. The Hayes and two other ships, the Italian Line's MV Michelangelo and the Japanese freighter Reine Maru, were in the area of the Eurygenes and altered course when the stricken vessel radioed an SOS at about 7:45 p.m.

"The Hayes immediately headed to the scene of the disaster at maximum speed in rough seas and heavy swells. The crew was alerted and started making preparations for rescue; checking boats, searchlights, rigging boarding nets and ladders," reported Captain Crampon.

About 11 p.m. the Hayes spotted the freighter on radar 20 miles away and also saw the lights of a U.S. Coast Guard plane. At 12:30 a.m., Crampon said "the Hayes was at the scene of disaster. The Eurygenes was burning fiercely at No. 3 and No. 2 hatches and fire had spread to the living quarters."

"Aboard the Hayes all crewmen were at stations, with on-board personnel from the Naval Ship Research and Development Center (NSRDC) manning port wing controls."

"One lifeboat was sighted and the Hayes maneuvered alongside and began helping survivors on board," Captain Crampon said. The first survivors were on deck at 12:50 a.m. Within 15 minutes, all had been pulled on board. Captain Macris told his rescuers that the first boat had capsized and 10 persons were still missing.

A search was started and the Coast Guard plane began dropping flares. The other lifeboat soon was sighted half a mile from the wreck, but empty. At 2:07 a.m., said Captain Crampon, some survivors were sighted. "Maneuvered Hayes to make a lee and drifted down, picking up two men," Gerassimos Kaloudis and Evangelos Peppas, both able bodied seamen.

It was nearly another hour before Mrs. Diamantopoulos and the radio operator were recovered.

About 7:25 a.m. the crew "sighted five people held up by life jackets, but not swimming," the captain continued. A lifeboat was launched in heavy swells. It took 40 minutes to recover the bodies and return to the Hayes.

Meanwhile, low on fuel, the Coast Guard plane left the scene, but a Canadian rescue aircraft arrived and began a search for the missing passenger.

In the early dawn the Hayes circled the Eurygenes "now ablaze and listing 30 degrees to port," the Captain reported. "The fire was extending from No. 2 to No. 1 hatch. Circled the ship twice at about three ship's lengths to ascertain that no one was on board . . . sighted Eurygenes life ring and various debris. Sea and swells moderating. Visibility good."

At 11:30 a.m. the Hayes broke off the search and headed for Norfolk with its cargo of bodies and exhausted survivors.

Captain Crampon lauded the ship's crew, NSRDC and Naval Research Labratory personnel and singled out First Officer John Whieldon who was in charge of the lifeboat; crew members Roy S. Tyler and Cruz M. DeJesus, both able bodied seamen; and Chief Steward Theodore E. Munroe. He said Whieldon "displayed skill and a high degree of seamanship under adverse weather conditions and in darkness." Tyler and DeJesus, he said, "on their own volition, assisted in the rescue of survivors by going down the ladders into the water to tie lines to the survivors. The captain said Munroe "appeared to be in all places at all times, wherever

(Continued on page 14)

There but for fortune

(and a life preserver) .

Five persons drowned and one is still missing from the abandoned Greek freighter Eurygenes. Two of the dead were Greek crewmen and three were civilian passengers. They all wore life preservers. Why did they die? The answer may never be fully known.

But as John T. Birmingham, senior scientist aboard the USNS Hayes when it responded to the ship's SOS, said, "Although it's a bit morbid, this tragedy makes you aware of the importance of lifeboat drills and having proper life saving gear like a flashlight and whistle."

All six victims were washed from a swamped lifeboat as they were attempting to escape from the burning ship. Four crew members who were thrown out of the boat were saved, however.

The sole surviving passenger, Thomas O. Lester, who lost his wife, was less than satisfied with the life preservers he and his wife were issued.

"The amount of floatation we were wearing seemed totally inadequate. When I was down in that lifeboat the waves were getting 16 feet and I'm s one that looked li 20 feet over me. I stances like that the wasn't adequate."

"While we were lifeboat . . . the fla very high and sp burning pieces flew

"I was wearing a with cork chunks wife was wearing jacket. I thought of bility of burning the thing. We threw we had with us over to protect us from

Lester also noted culty the crew had survivors out of the the struggle some ple had getting int boat.

"I'd like to have jacket that had a went between the l to fasten in the fr snap," he said.

A line snapped t et front could hav the rescuers to pu tims out of the wa said.

Birmingham sai Greek survivors been pulled from

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said the two
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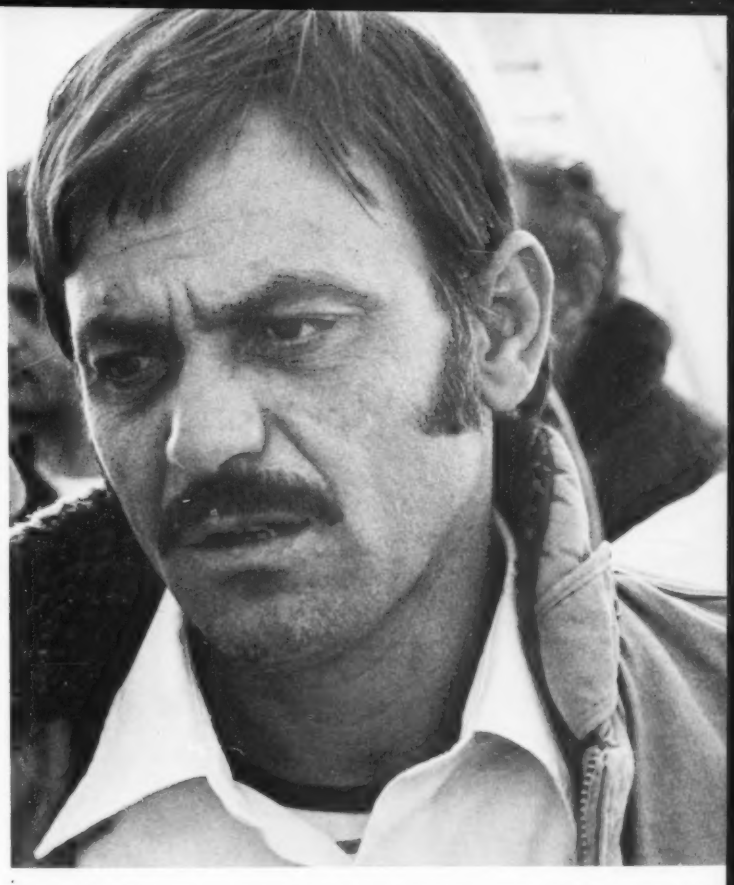
and the steward who died minutes before he could be rescued had kicked their trousers off to make it easier to stay afloat. But the lack of trousers also made it difficult to pull them aboard "because there wasn't much to grab on to."

Capt. Jacques C. Crampon, Hayes' skipper, said in a report to MSC headquarters, "During this assistance-at-sea mission it was dramatically brought to the attention of all hands the help that a small light attached to each individual life jacket would have provided in searching for and locating survivors in the water."

MSC regulations now require that only the emergency boat crew have such lights attached to their life jackets, he noted.

Reflecting on the entire incident, Lester said, "Perhaps if equipment were changed, methods were changed, maybe at another time all could be saved." □



HEROINE: Looking almost like cruise passengers, Chief Engineer Christos Diamantopoulos and his wife Vasiliki pose on the deck of USNS Hayes. She is credited with saving the radio officer's life by towing him on an oar.

Rescue *(Continued from page 11)*

needed" and noted that the steward department "contributed an all-hands effort in assisting, comforting and feeding survivors."

"Equally commendable was the attitude of all those aboard Hayes, who provided for the needs of survivors, sharing their clothing and other necessities required for health and comfort. Especially noteworthy was the magnificent, spontaneous contribution of almost $900 to provide other necessities during their repatriation. To single out each individual would be impossible," the captain said.

Engineers from NSRDC who manned the searchlights were: David H. Ricks, Samuel Dawson, Dr. Arthur Kilkullen and William E. Leyda.

The detailed report by Captain Crampon tells only one side of this tragedy in the North Atlantic. The sole American survivor, Mr. Lester, who sails his own small catamaran, gives much of the other. In an interview aboard the Hayes enroute to Norfolk, Mr. Lester said in part:

"We had two calm days at sea. The other two passengers were Dr. and Mrs. Gordon. As we had mutual friends we quickly became close friends. At dinner Sunday evening, at 5:20, we smelled smoke and at the same time the fire bell rang. We had a notice on our (stateroom) doors so we knew it was the fire bell. At the urging of our stewards we all ran for our life jackets."

"We were soon asked to gather in one of the staterooms to stay out of the way while they (crew) did their work. It appeared they might have had the fire under control. They told us all was going well."

"Then the fire burst out and flames spread to the upper structures and the corridors filled with smoke. We went out on the boat deck and were sent to the starboard lifeboat. The waves were very high, the wind high, conditions very bad, and dark. This was shortly after 12. We sat in the boat for at least another 20 minutes and then it was lowered. And it had no sooner hit the water

than a wall of water swept over us. Apparently that was when the after-fall was let go."

"I was under water until I thought I couldn't make it. I jammed my legs and clung to whatever I could find under water. I found myself completely alone in the water—not even any gear around. The boat was washed clean by the water rushing out over the aft end. The bow was still caught on the fall. I made a grab for a nearby line and hung on. The boat slammed against the ship with each wave so that I felt surely it would come apart. I shouted first for my wife. I never saw anything—no heads, no gear, nothing."

"Then I started shouting at the deck crew and the next thing I knew they threw a rope. I let go of my hold on the line that was keeping me in the boat and rattled around among the seats and the gear, and while I tied the rope around myself I shouted to the man above and they pulled me up. All the others were gone. The boat was empty."

Mr. Lester then went to the second lifeboat which was lowered with difficulty due to the weather conditions.

"The the men started coming down the Jacob's ladder. It was loaded with men. As the boat came up (on a wave) the men leaped from the ladder and we all reached up and grabbed arms, legs, anything we could. Then the men started coming down the knotted ropes and they would swing and slam against the ship and then swing way out over our lifeboat. When they saw they were over us they would let go and drop in.

"The last man, he appeared to be the captain, came down the rope. By the time he was down we were much too far out for him to swing and drop so as we came down he dropped into the water. Several men came in that fashion. They swam out to where we could get them."

"We were rowing away from the ship and I was shouting, 'let's go look for survivors,' beckoning and trying to get them to change the direction of the boat. But we were in no shape to pick up anybody.

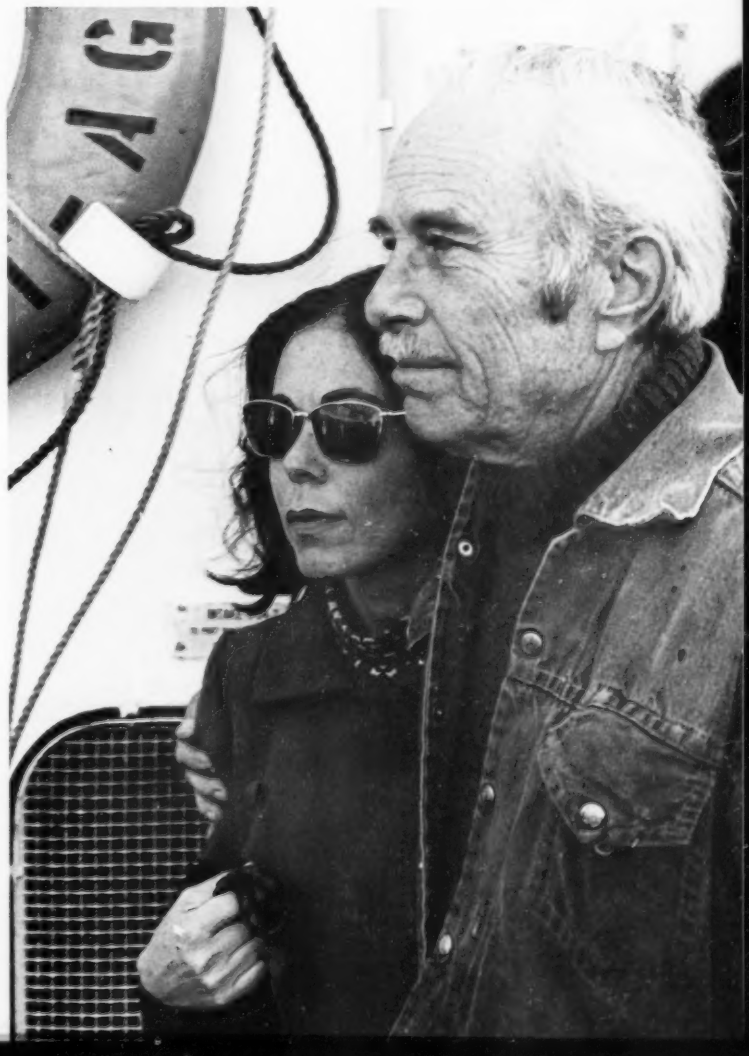
I finally got my head up so I could look around a little and I saw the flames shooting way up in the sky from the ship on one side and then I saw the light of the Hayes. We finally came up to the Hayes. The men threw us lines and held the boat in place while we started up two Jacob's ladders. I climbed up where hands could reach me and they pulled me aboard."

Two NSRDC engineers, Birmingham and Ricks, agreed that larger ships without the maneuverability of the Hayes may not have been able to rescue the persons in the water.

Ricks said emphatically that if it had not been for the Hayes "those four would not be alive." He cited the four powerful searchlights and the ship's maneuverability. "The captain did an excellent job in maneuvering the ship to the survivors. It was very rough and he put the ship right next to them."

The Eurygenes is owned by P.D. Marchessini & Co., of London, and was built in Germany in 1961. As the Hayes was tying up in Norfolk on October 25 the Eurygenes was being towed to Halifax by the salvage tug Noordzee. By then she had a 40 degree list, but arrived successfully.

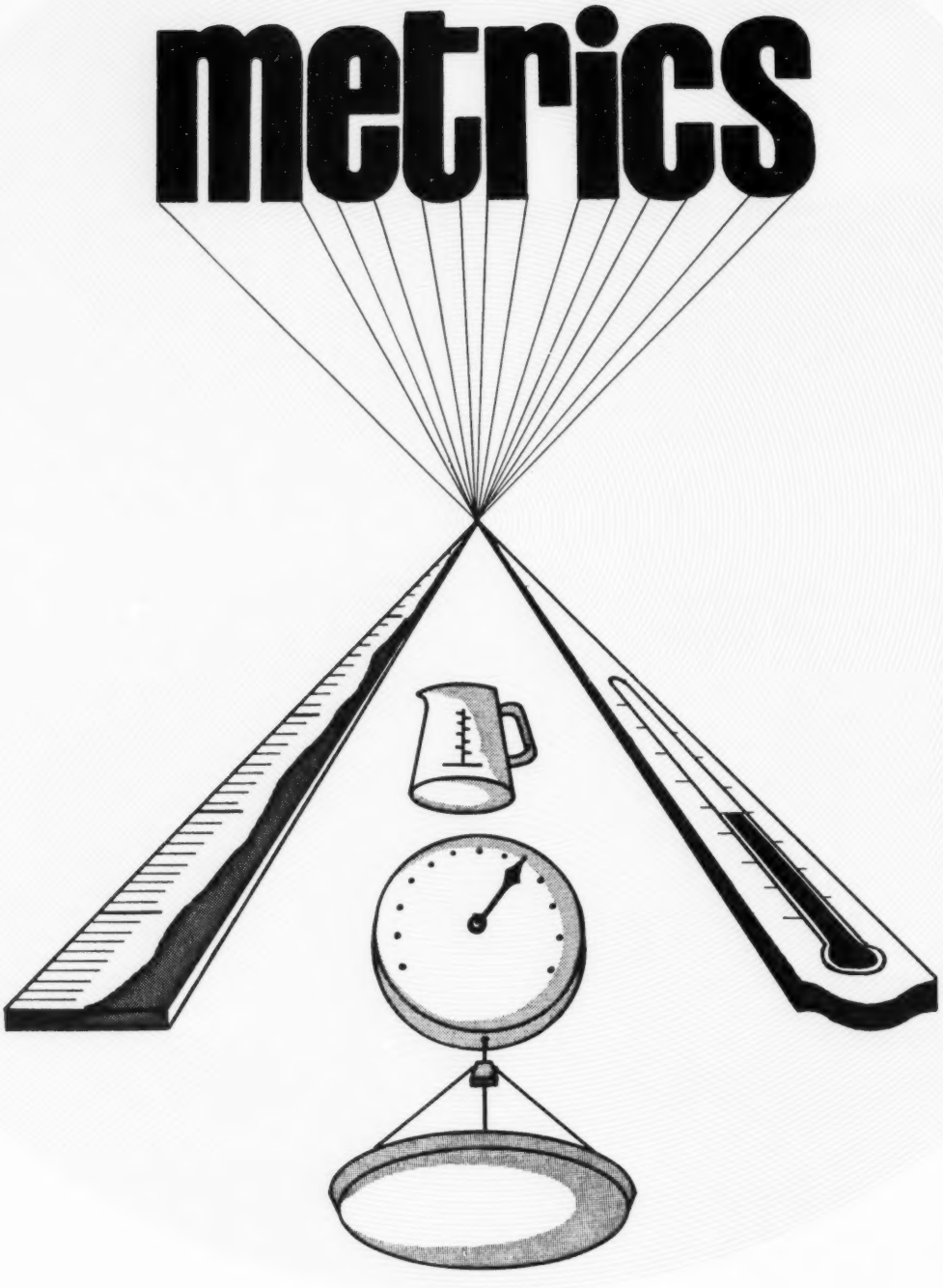
Back in Norfolk, Mr. Lester's son and daughter were waiting on the pier. He had lost a wife and they had lost a mother. □



HAYES' CHIEF STEWARD: Theodore Munroe was lauded by the Hayes' master for "being in all places."

REUNION: Thomas Lester, lone survivor of the Eurygenes' four passengers, clutches his daughter as they leave the Hayes in Norfolk.

metrics



by
Howard Rosenberg

OK fellow male chauvinists, what are the most eye appealing measurements for a well-developed woman?

If you answered 90–60–90, you would be right in step with today's Continental man because you would be thinking in terms of the metric system, and giving your opinion in centimeters.

While cars today travel at 50 miles per hour to conserve gas, under the metric system you could still speed along at 80—kilometers per hour that is.

To become a metric man, we backward Americans, would only need to get a simple metric conversion table from the National Bureau of Standards and do a bit of simple calculating. And "simple" is the right word. To be proficient at counting in the metric system, one needn't know any multiples other than tens.

It might be a good idea to start practicing, since it appears that the United States apparently is centimetering its way toward conversion to the metric system of weights and measures.

A proposed Congressional bill, which could be passed in 1974, calls for establishment of a board to determine how to convert the United States to the metric system in an orderly way, and to set a time limit for completion of the changeover.

According to L. E. Barbrow of the office of metric information in the Bureau of Standards of the Department of Commerce, the legislation would provide for appointment of a board of representatives from 20 or so major U.S. industries. The board would appoint experts in various fields—shipbuilders, aerodynamic engineers, electrical engineers, carpenters, plumbers and a host of others—who would coordinate activity in their special fields to find out exactly what must be done, and what changes would have to be made to convert to the metric system. The board would then make recommendations to Congress for action.

Actually, most of us know something about the metric system. Many of the things we use in our daily lives are already measured or weighed using metrics. For instance, the width of photographic film is measured in millimeters, skis are measured in centimeters and many swimming pools now are built according to Olympic metric specifications.

Some things would not change. Money already is counted in fives and tens, and 60 seconds would still be a minute. And your favorite football team will still get a first down and ten.

"It would be foolish to change the length of a football field," said Jeff Odom, also of the office of metric information. "It wouldn't accomplish anything. We certainly wouldn't do it to keep in step with the rest of the world since we're the only country that has football."

The United States is one of the few nations not fully using the metric system. Nearly 90 per cent of the world does. The United States, United Kingdom and Australia still measure in feet and pounds. But, the latter two are converting and will completely be using metrics within the next few years.

Reaction by U.S. industry to the idea of metrics has been for the most part favorable. Some companies already are in the midst of a changeover. IBM, General Motors and Ford have been making various parts in metric dimensions for some time now, and Ford just recently opened a plant where only metric-measured parts are manufactured.

Though initial cost of conversion is high, manufacturing companies stand to benefit in the long run. If American parts are manufactured in accordance with metric specifications, the possibilities for world trade and worldwide interchangeability of parts are greater.

According to Barbrow, the automotive industry estimates that within 10 or 12 years it will have an entirely metric automobile. Until then, some metric parts may have to be fitted with adapters for use with customary-sized parts.

Problem is one of standardization. A 6 mm wrench, for instance, is slightly different than a ¼-inch wrench. Six millimeters equals .23602 inches. Many other items now used in the United States are not manufactured to the same standard as comparable items in foreign nations. Conversion to the metric system would enable international standardization.

Presently, a private organization called the American National Metric Council helps plan the conversion.

General Electric has announced its support of a national metric policy, along with the National Education Assn., the National Grange, the American Assn. of State Highway Officials and the American Home Economics Assn.

Last February, directors of the National Assn. of Manufacturers said in a policy statement, "the long-term interests of the United States will be best served by adoption of the international system of units (metrics) and thus be in total harmony with the rest of the commercial and industrial world."

The association represents more than 13,000 U.S. manufacturers.

Former Secretary of Commerce Maurice H. Stans has recommended that the United States change to the

meter liter gram degree Celsius

international metric system through a coordinated natio al program, with a target date for completion in 10 years.

That the United States will go metric seems inevitable and necessary.

Just how does the metric system of weights and measures work? Basically it is quite simple.

There are four basic units of measurement. Weight is measured in grams, length in meters, volume in liters and temperature in Celsius degrees (formerly centigrade.)

By using various prefixes you can determine amount, size or distance. Milli is the prefix denoting 1/1000th, centi is 1/100th and kilo means 1,000 times. For example, 1,000 millimeters (mm) equals 1 meter, as does 100 centimeters (cm). One thousand meters equals one kilometer (km) which is the standard unit for measuring great distances.

Metric measures are based on the decimal system. For use in everyday life, you only need to know 10 units—and get used to a few new temperature readings.

Basic units of the metric system are quite similar to the standards used ever since we became a nation. A meter is a bit longer than a yard (about 1.1 yards). A liter is a little larger than a quart (about 1.06 quarts), and a gram is about the weight of a paperclip.

The benefits of metric conversion would be enormous, primarily because everyone would then be speaking the same language. But, that would also be the most difficult task. Richard Askren, head of MSC's ship concepts and development division, offered examples. "We are familiar with the system we use. A person can mentally create an image of a pound, for instance. We will have to consciously translate that to metric equivalents." However, in a short period of time that translation would become automatic.

As far as engineering itself is concerned, "there's no problem," said Askren. "As long as an engineer has a scale, and the contractor who reads the blueprints has the same scale, they have no trouble following the diagrams."

Computers would cause no problems. They only use what's fed into them, so if they are programmed in metrics, they will calculate in metrics.

Askren continued, "If you give a mechanic a wrench he doesn't care whether it is a ¼ inch or a 6 mm as long as it fits the bolt." However, until mechanics have all the tools necessary to fit metrically sized nuts and bolts there will be problems.

One problem would be that of spares. The average life of a ship is 30 years. If the United States went metric before the life of a ship is completed, its owners would have to stock old-style spare parts. Until all machinery now in existence wears out, there will have to be a source of spares which fit.

So, if you have a vintage 1956 Chevy, and the U.S. goes metric next year, you are going to have big problems 10 years from now. On the other hand, if you have a Chevy that old, you probably already are having a tough time finding parts.

So far as the layman is concerned, once he becomes familiar with the few units of metric measure, he would have an easier time than measuring in the English system because all metrics are multiples of 10.

The National Park Service now includes both customary and metric measures on its signs and the school systems of Maryland and California are teaching metrics in the classroom. If you drive through parts of Ohio you will see kilometers and miles listed on the same sign and Sears and Roebuck is manufacturing some of its products according to metric specifications.

So, it might be advisable to jump on the bandwagon and start practicing your multiples of ten. While you might not be able to buy a McDonald's quarter-pounder in a few years, you'll only have to walk a kilometer for a Camel. And, perhaps best of all, you can still love someone a bushel and a peck and a hug around the neck. □

All You Will Need to Know About Metric

(For Your Everyday Life)

10

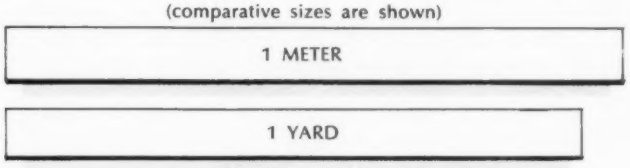
Metric is based on Decimal system

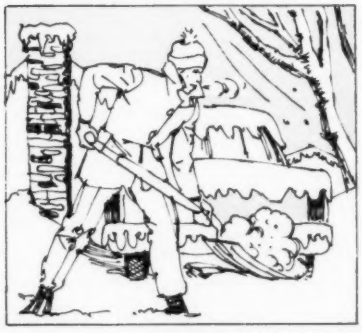
The metric system is simple to learn. For use in your everyday life you will need to know only ten units. You will also need to get used to a few new temperatures. Of course, there are other units which most persons will not need to learn. There are even some metric units with which you are already familiar: those for time and electricity are the same as you use now.

BASIC UNITS

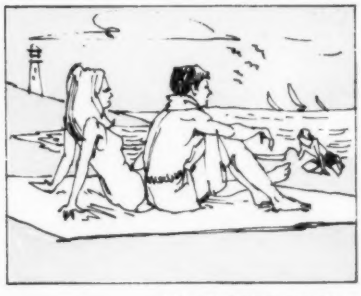
METER: a little longer than a yard (about 1.1 yards)
LITER: a little larger than a quart (about 1.06 quarts)
GRAM: about the weight of a paper clip

(comparative sizes are shown)





25 DEGREES FAHRENHEIT



25 DEGREES CELSIUS

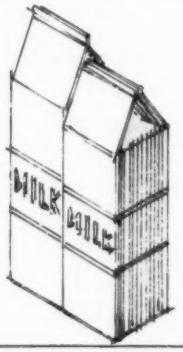
COMMON PREFIXES

(to be used with basic units)

Milli: one-thousandth (0.001)
Centi: one-hundredth (0.01)
Kilo: one-thousand times (1000)

For example:
1000 millimeters = 1 meter
100 centimeters = 1 meter
1000 meters = 1 kilometer

1 LITER



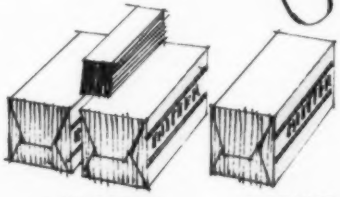
1 QUART

OTHER COMMONLY USED UNITS

Millimeter:	0.001 meter	diameter of paper clip wire
Centimeter:	0.01 meter	width of a paper clip (about 0.4 inch)
Kilometer:	1000 meters	somewhat further than ½ mile (about 0.6 mile)
Kilogram:	1000 grams	a little more than 2 pounds (about 2.2 pounds)
Milliliter:	0.001 liter	five of them make a teaspoon

OTHER USEFUL UNITS

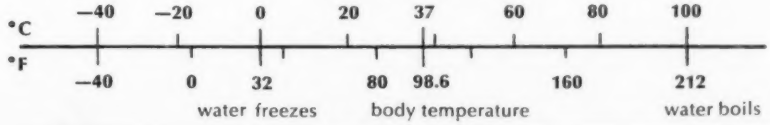
Hectare: about 2½ acres
Tonne: about one ton



1 KILOGRAM 1 POUND

TEMPERATURE

degrees Celsius are used



Teammates and Teamwork

by
Maj. Gen. H.R. Del Mar
Commander, MTMTS

Before assuming command of the Military Traffic Management and Terminal Service, I commanded the MTMTS Western Area in Oakland, California. Before that, I was commander of the U.S. Army Support Command at Cam Ranh Bay in the Republic of South Vietnam. I'm not trying to write an autobiography but rather to point out that I have been involved with the Military Sealift Command at many levels, both operational and staff. My involvement has proven to me that MSC has performed in a magnificent manner during combat situations, emergency conditions, and now during peacetime.

Although this article is directed toward the members of the Military Sealift Command, I hope that other readers of this excellent publication also can appreciate that the future of Defense transportation depends on teamwork from everyone involved.

The commanders of MSC and MTMTS have something in common. We are both executive directors of operating agencies for Department of Defense single managers. My direction flows from the Secretary of the Army through the Army Chief of Staff who has Defense Department responsibility for military traffic, land transportation and common-user ocean terminals. We provide an interface with shippers, commercial carriers, and both MSC and the Military Airlift Command by managing:

★ Freight and passenger traffic within the Continental United States;

★ Worldwide personal property movement and storage; and common-user military ocean terminals in the United States and certain oversea areas.

The MTMTS objective is to provide responsive, flexible support in peace and war to the operating forces of the U.S. Army, Navy, Air Force, Marine Corps, and Defense Supply Agency. We prvoide the 'how' of movement management after the military shipper decides 'when,' 'where,' and 'what' is to be moved.

To execute the 'how' for the services, MTMTS is jointly staffed by members of the Army, Navy, Air Force and Marine Corps, and has about 4,000 civilian employees. For management purposes, operations functions are divided among four directorates at the headquarters level. They include International Traffic, Inland Traffic, Passenger Traffic, and Personal Property.

Besides our commonality as transportation operating agencies of the Department of Defense, MSC and MTMTS are two important players on a big team. One other important member is the commercial transportation industry. The team work required from each member and some thoughts on where the term should go deserve a closer look.

In our field, nothing has occurred in recent years that demands cooperation and promotes unity as much as containerization. The container with its improvements

TERMINAL CRANE: A container crane at Cam Ranh Bay places a container on a trailer.

in cost, pack, swift movement, and security is coordination-in-motion. Coordination is the key word. If we don't coordinate, everyone loses, for a lost or misdirected container is worthless.

In different ways, we are customers of our teammate—industry. We have different requirements for services, but each of us believes that our special requirements must be met on time, and on target. Of course, I view my priorities as the highest because ships, both MSC and commercial, carry more than cargo. They carry a commodity for which no bill of lading has ever been issued. They carry—during crises—the nation's fate.

During the past fiscal year, the Military Traffic Management and Terminal Service influenced about $1.2 billion spent for transportation services. Of that, about $1 billion was for shipment of cargo and the rest for personnel movements. During the same period, we outloaded about 8.7 million measurement tons of cargo for oversea destinations, of which 1.5 million measurement tons were ammunition. You can see from those figures that we are vitally interested in efficient, quality transportation needed to meet worldwide military commitments.

Intermodal container service has caused a drastic change in both Defense shipping procedures and supply distribution. Our use of container services has increased hand in hand with Defense growth of industry capability. Excluding ammunition, MTMTS is now shipping about 70 per cent of dry and reefer cargo by container. This represents about 12,500 containers per month to deployed forces, holding 375,000 measurement tons of cargo. The future rate of growth is directly related to you and maritime industry because our container traffic moves through commercial ocean terminals and aboard commercial ships. This is as it should be, and we look to our teammates to continue to provide us with responsive service.

The container is especially valuable when considering the supply distribution objective of maintaining an inventory-in-motion. In short, that concept requires that the services live out of the transportation pipeline. Depot inventories are held to a minimum and emphasis is placed on direct shipment from the producer to the user.

To be responsive to the overseas commander's requirements, the pipeline inventory must be well managed because it literally is his lifeline. We must have a positive system to insure visibility of the cargo during the transit from origin to destination. Since containers carrying military cargo are in the hands of commercial carriers during most of the transit, I believe that we must have a common-language interface between MTMTS and industry's computers. This requires mutual acceptance of standard documentation procedures.

Creative technology is a paradox. It provides us with an extremely efficient delivery system and then tends to choke us with paperwork. We all must get the fat from the paperwork while we stress Spartan routine and maximum flexibility. We need common perspective—not perplexity—and when I say we, I mean all players on the team.

How do we in MTMTS manage the 375,000 measurement tons we ship monthly in containers, and how will we manage if that tonnage doubles or triples? We have developed a new breed of transportation managers—the container manager. Successful containerization demands new thinking with an attitude comprised of the ability to consider all lines of transportation, distribution and warehousing. The container manager knows that containerization is the common denominator among motor, rail and water carriers. He or she also knows that only obsolete thinkers consider modal independence when they view transportation as a system.

The container manager must convince those who fight the inevitable that they are outgunned by less cost, faster movement and better service offered by the hands-off-the-merchandise container method of movement. The concept must be sold primarily to those who still think in terms of sailing ships and dray horses.

This person must be customer-oriented. Service must be a way of life rather than high sounding theory and hope. Lip service cannot be condoned. Service is the keynote. Service is the common denominator. Service is what it's all about.

If I've got you thinking that containerization meets every need and expectation of the military, I don't intend to. We still need innovation and balance. The most important container in the world is the one between our ears. A computer can help solve our problem of compiling statistical data, but it is your own brain, or biological computer, that will solve our management problems.

Military contingency delivery capability is best tested in those places that provide the most severe tests. If you want to test a system, operate it in the most restrictive type environment possible. For a transporter this should include mountains, jungles, deserts, swamps, and monsoons. There should be a road net that is the worst possible. The waterways should be full of twists and turns which greatly restrict vessel size, and rail systems small, antique and often not working at all. Also airfields—suited to small propeller-driven aircraft and unusable during heavy rain.

Couple all those conditions with an enemy who picks the time and place for battle, and who is capable of harassment of the logistical system. It adds up to great challenge for the logistical planner. Well aware of the container revolution, he also knows that every revolution produces side effects. The container revolution is no

exception. He can see one of the new, fast moving container ships anchored in the harbor of a country that has an environment like that used in my example. She has made a record crossing and now sits there with all the self-sustaining capability of a 6-day-old elephant. Without shipboard and shoreside cranes, even the most expert thief couldn't take the cargo off unless he broke it down into manageable pieces.

I know that non-self-sustaining container ships are cheaper to build, more economical to operate and more productive than self-sustaining container ships. I also realize that the design is dictated in the marketplace. But a profit squeeze is not profitless—it compels ingenuity. And, I know that our combined expertise and total objectivity can assure that container ships will be responsive to our contingency requirements.

Today's logic seems to be that everything must be put into a container. But, having spent time on the user end, and also having been at various points in the pipeline, I cannot put all my eggs in the "container basket." I know that we continually change cargo mixtures when we shift rapidly from garrison forces in peacetime to supplying operational forces in wartime. Operational forces require a tremendous amount of material, including wheeled and tracked vehicles, aircraft, construction equipment, and other items that will not fit into containers. Accordingly, a well-balanced ocean delivery capability is essential to our well-being in time of contingency.

I look upon the military-industrial transportation capability as a vital national resource which enables U.S. Armed Forces to display our joint and global posture of readiness and rescue. MSC and MTMTS are two proud members of a team that has performed with super excellence. The virtue of a strong, healthy, and viable American merchant marine for Defense movements, and the paradox of technology serving as both an asset for war and a catalyst for peace, are evident. Each of us plays an enormous role in providing strength for one—and hope for the other.

The success of our team depends upon continued innovation both in our management and operations. Innovation depends on the quality of the inter-relationship we maintain, and the unity of transportation actions between the military and commercial enterprise. Our military transportation concepts envision a total distribution system to include visibility of military supplies in the transportation pipeline, and the movement control required to preclude saturation of Continental United States and overseas terminals.

Container and barge ships will move a large portion of this traffic and move it through modern commercial ocean terminals and aboard modern commercial ships. It will require military contractural supervision, quality assurance, and movement control necessary to insure responsiveness.

Unified teamwork, mutual confidence, and innovative management from MSC, industry, and MTMTS will be needed to signal well done to all involved. □

Commander of Military Traffic Management and Terminal Service, Major General Henry R. Del Mar was born in New York City in 1921 and commissioned as an Army second lieutenant in 1942. During World War II, he distinguished himself during several major battles in the Pacific theater.

After leaving the service to further his education following World War II, General Del Mar received a bachelor's degree in biology from Washington Square College, New York University, and returned to the Army in 1948. He also earned a master's degree (cum laude) in political science from Long Island University in 1962.

Throughout his military career, General Del Mar has held key transportation assignments, most recently as commander of the 14-state Western Area of MTMTS in Oakland, California.

During his career, General Del Mar received the Bronze Star for Valor four times, the Distinguished Service Medal, the Legion of Merit with an oak leaf cluster and the Purple Heart with two oak leaf clusters, plus a number of other awards.

MORNING AFTER: Flames and smoke billow from the stricken ship after a night rescue mission by Hayes. North Atlantic waters claimed five lives. One man is still missing. *(See story page 10)*

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